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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers and improve the character of the service rendered to the public.

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LEGISLATIVE MEETING OF THE LAKE CARRIERS ASSOCIATION.

The committee on legislation met in Buffalo on Saturday, December 3, and transacted the following business:—First. The secretary laid before the meeting a communication from the Department of State showing a deadlock in the matter of reciprocal wrecking privileges between Canada and the United States. This deadlock arises from the fact that the United States has so far insisted that such reciprocity of wrecking in the lakes and connecting rivers, but not in her canals. The committee thought that the privilege of wrecking in the canals was unimportant, and that measures should be taken to introduce in Congress a bill amending the former act concerning reciprocity of wrecking by striking out the words "therein relating to the canals." The passage of such an amendatory act would enable the President of the United States to proclaim reciprocal wrecking on the lakes and connecting rivers at once. Second. The secretary was directed to endeavor to procure the passage of an act by Congress directing the appointment of an official board to examine into the subject of raft towing on the Great Lakes and connecting rivers and to report to Congress as to what restrictions, if any, should be made in the size and manner of towing such rafts. It was believed by the committee that such a report would bring the raft question before Congress in such a form that relief could be obtained, and that without such official backing, action by Congress could not be had. Third. The committee adopted resolutions requesting the committees on appropriations of the two houses of Congress to provide in the proper appropriation bill the money recommended by General Poe and General Casey in their annual reports for examining and re-surveying certain dangerous localities on the lakes and correcting the lake charts accordingly. The resolutions of the committee are based upon the main proposition that the government of the United States should not sell to navigators incorrect and untrustworthy charts. Fourth. The committee unanimously recorded themselves as opposed to House bill 7368 and 9176 forbidding limitations of liability on bills of lading, and Vice-President Firth was requested to co-operate with the ocean steam-

ship lines in opposing the passage of these measures. The grounds of such opposition will be found in the letter transmitted to the House committee on commerce by Mr. Firth in July last.

Fifth. The committee on legislation suggested to the committee on aids to navigation that there is a special need for a lightship at Poe's reef and that the Association should make a strong effort to procure such an important aid to navigation at this winter's session of Congress.

CHARLES H. KEEP, Secy.

The H. R. Bill 7368 and the general question of carriers liability under their bills of lading is treated of in a pamphlet sent to the House Committee on Interstate and Foreign Commerce by Mr. Frank J. Firth on July 13, 1892. The text of the Bill is to prevent carriers engaged in interstate commerce from limiting their common law liability as common carriers and reads as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be unlawful for any common carrier subject to the provisions of the Act entitled 'An Act to regulate commerce,' approved February 4th, 1887, and the several Acts amendatory thereof, to insert in its bills of lading any provision limiting its liability as a common carrier, and any contract entered into by such common carrier whereby it limits, or attempts to limit, its liability, under the common law, whether such contract be included in its bills of lading or otherwise, shall be null and void."

ANNUAL MEETING OF A CLASSIFICATION SOCIETY.

The managing committee of the United States Standard Steamship Owners', Builders' and Underwriters' association, of New York, have extended a cordial invitation to lake underwriters to attend the annual meeting of the association, to be held on Wednesday, December 14th, in New York. Underwriters from all parts of the United States are requested to attend for the purpose of considering the plan of lake vessel classification proposed by the association. The meeting is to be followed by a banquet tendered to the members, visitors and friends of the association.

TO PROHIBIT IMMIGRATION.

Surgeon-General Wyman, of the Marine Hospital Service, in his annual report to the Secretary of the Treasury, will recommend, it is said, as a measure of safety to the country during the progress of the World's Columbian Exposition that immigration be suspended for at least one year from January 1, 1893.

This is based on the prediction of sanitary experts that cholera is almost certain to reappear in European countries next spring. It is regarded as almost certain that the Secretary of the Treasury will endorse the proposition as part of his general plan for the establishment of a national quarantine service.

MARINE INSURANCE CONGRESS.

The news comes from Chicago that insurance men are exhibiting much interest in the arrangement for insurance congresses. These conferences will include fire insurance, marine insurance, life and accident insurance, mutual benefit and assessment associations, fidelity and employers' liability insurance, and insurance specialties. These several chapters are in charge of appropriate local committees of arrangements. These special committees, with the aid of the advisory councils, composed of eminent representatives selected from this and other countries, will arrange programmes and select speakers.

Among the commercial topics, marine insurance, from its antiquity, extent, and importance, deservedly

occupies a prominent position. It is already apparent that the congresses on other subjects will be largely attended and will be international in character, and it is considered well worth the while to make a vigorous attempt to put the marine insurance congress on an equally high plane. The practical results of such a congress would, it is expected, be a marked advance on the road to international unity of practice in several important matters, particularly in the law of general average. The progress in this direction which attended the formation of the York-Antwerp rules, makes this expectation a fairly reasonable one. It is intended to hold the marine insurance congress in the week commencing June 19, 1893.

NOTICE TO MARINERS.

(No. 49, of 1892.)

CHANGE IN WELLER'S BAY LIGHTS.

The range lights at Weller's Bay, on the north shore of Lake Ontario, in the county of Prince Edward, Ontario, have been moved, and the colors of the lights changed.

The front light tower now stands on the shore of the bay, at the southwest end of the Carrying Place road, 843 feet N. $\frac{1}{2}$ W. from its previous position. Lat. N. $44^{\circ} 2' 0''$ Long. W. $77^{\circ} 35' 20''$

The light has been changed from fixed red to fixed white; it is elevated 26 feet above the level of the lake, and should be visible 10 miles in the line of range and to the eastward until cut off by Bald Head and to the westward until cut off by Presqu'île Point.

The back light tower has also been moved to a new site distant 508 feet N. E. $\frac{1}{4}$ E. (N. 46° E. true), from the front one. The light has been changed from fixed white to fixed red, and is elevated 37 feet above the lake level; it should be visible 7 miles in, and over a small arc on each side of, the line of range. Vessels approaching from the westward will not open this light until nearly reaching the alignment, as it is screened by trees.

The two light buildings are unchanged in character. There is a bar with about 10 feet on it across the mouth of the Bay, at a distance of two nautical miles from the front light. The new alignment leads over this bar, at or near its narrowest part, in practically the best water, and also leads clear of the extremity of the spit off Bald Head, which is 3,300 feet inside the bar. Vessels entering can now pick up the alignment in the deep water of the lake, cross the bar on the alignment, N. E. $\frac{1}{4}$ E., and keep it until the extremity of Bald Head spit is passed at a distance of about 150 feet, when they will be in the deep water of the bay, inside of all dangers.

The tripod beacon marking the end of Bald Head spit, referred to in part 1 of Notice to Mariners No. 13 of 1889, has been washed away, and will not be replaced at present.

This notice affects Admiralty charts Nos. 797 and 1152, and Canadian list of lights and fog signals Nos. 176 and 176a.

WM. SMITH, Deputy Minister of Marine and Fisheries. Department of Marine and Fisheries, Ottawa, Canada, 22nd November, 1892.

All bearings are magnetic and are given from seaward, miles are nautical miles, heights are above high water, and all depths are at mean low water.

Pilots, masters, or others interested are earnestly requested to send information of dangers, changes in aids to navigation, notice of new shoals or channels, errors in publications, or any other facts affecting the navigation of Canadian waters to the Deputy Minister of Marine, Ottawa, Canada.

NEWS AROUND THE LAKES.

CLEVELAND, O.

The Board of Equalization have raised the tax returns on vessel property \$175,957, making the total vessel tax now paid on shipping owned at this port \$1,085,760.

The schooner Glad Tidings, recently sunk and abandoned inside of the breakwater and purchased by Captain Denville, has been raised and towed up the old river bed for repairs.

Mr. Louis Scherzinger, local agent for the Chicago Photo-Gravure Co., is an energetic, business-like young man, who has a particular leaning for marine subjects and his orders sent through to the firm during the past few months has done much to advertise the importance of lake industries.

Mr. Y. F. Newman was presented with a tray containing 375 silver dollars at Detroit this week on the occasion of his resignation from the D. & C. S. N. Co. after a service of seventeen years. The presentation was made at the home of general manager, David Carter and represented a farewell gift from the employees of the company.

The Wilson Transit Line steamers and the Corrigan liners are as usual among the latest boats on the lakes. First to get to work in the spring and the last to lay up in the fall seems to characterize these well equipped lines of wooden steamers. The feature is more remarkable this season, as nearly all of the iron and steel fleet was laid up several day ago.

Capt. N. Bartlett, the g. m. a. w., embarked on the Orient Line steamer Verona at Ashtabula last Monday night and made the run to this port in four and a half hours. The all around good man did not learn the name of the master of the Verona, but from personal observation and by the reading of his magic cane, he says he is a sailor and a gentleman withal.

Captain Carlton Graves, of the steamer Keystone, has completed the season and will place his steamer in winter quarters at this port. The captain says that barring the detention in port, which all lake tonnage has more or less experienced, he has had a fairly prosperous season, neither the steamer nor her consort having suffered the least damage, or inflicted any upon others.

There are seventy vessels in the old river bed, including some of the largest steel steamers on the lakes, in the main river there are about fifty-six vessels. In numbers this port by no means heads the list for winter moorings, but the tonnage is nearly all heavy, and in this respect Cleveland makes a fairly good showing. The harbor master and his assistant will find quite enough to do for a couple of weeks yet in seeing that the tonnage is moored to the best advantage, and that the city ordinances are strictly complied with.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

The steam barge Maggie Duncan left here Tuesday night for Milwaukee to lay up. She will have her engine compounded during the winter.

Capt. James Keenan has chartered his schooner Elgin to transfer grain during the winter months for Armour & Co., on Chicago river.

The steamer Ohio was chartered by C. W. Elphicke & Co. Monday, for corn to Buffalo at 4 cents per bushel. She loaded at Armour's and Iowa elevators and left Tuesday evening for Buffalo.

The steamer Sitka was chartered Tuesday morning by Capt. John Prindiville for corn to Buffalo port. She went to the Pacific elevator at noon to load. She will be the last steamer to leave here for lower lake ports this season.

The following steam and sail vessels have been chartered for winter storage at this port on a basis of 4 cents per bushel on corn for storage and delivery at Buffalo: Waldo Avery, Iron King, Iron Queen, Iron Cliff, Caledonia, Parks Foster, John Oades, Ira H. Owen, Charles S. Parnell, Roumania, Rube Richards, Lem Ellsworth, Wayne, Redwing.

At Miller Bros.' shipyard the schooner B. F. Bruce was in dock for closing up her center-board box; the steamer Tom Adams for some new plank and calking; the steamer Jay Gould for re-calking and ironing; the tug Protection for a new wheel; the steam barge D. W. Powers for a survey; the steamer Iron Cliff received two new deck beams, some new hatch coamings and calking deck; the steamer Ionia was in dock and was calked all over.

Capt. Edward Mullens, schooner Commerce, lying in the Ogden canal alongside Miller Bros.' shipyard, had her cabin and its contents destroyed by fire Monday night. It is supposed that the fire was caused by the explosion of a kerosene lamp which the ship-keeper left burning when he went ashore. The loss is covered by insurance.

The Davis Boat and Oar Company, of Detroit, have contracted to build a steam yacht for Michael Cudahay, of this city, of the following dimensions: 128 feet over all, 17 feet beam, 8 feet 6 inches depth of hold, engine triple expansion, 12, 18 and 32 by 18 stroke and a Robinson water tube boiler. She will be elegantly finished and furnished, and will be named the Catherine C.

E. A. Shores, president of the Shores Lumber Co., Ashland, Wis., is in the city.

Capt. J. A. Calbick, on behalf of the owners of the steam barge D. W. Powers and Capt. Win. Keith, on behalf of the insurance company in which she was insured, held a survey on her in one of Miller Bros.' dry docks Tuesday, and found her bottom badly damaged by her going ashore on Mackinaw Island on the 26th of November.

George C. Finney & Co., ship chandlers, have 75 outfits of vessels which have gone into winter quarters at this port, stored away in their spacious lofts for safe keeping until spring.

The steamer J. H. Prentice, Capt. J. J. Carr, and consorts Middlesex and Constitution, arrived here Wednesday night Nov. 30th, at 11 o'clock. When they left Ashland Thanksgiving day there was 4 inches of ice in the bay, and two tugs were employed to break the ice ahead of them.

The steamer M. F. Butters, Capt. Louis Oleson, left here Saturday night for Milwaukee to lay up. She made fifty round trips between Ludington and Chicago during the past season, and on an average unloaded at four docks each trip. She will go into dry dock at Milwaukee and receive a thorough overhauling.

The steamer Lawrence, Captain Boyd, of the N. M. Line, has gone to Manitowoc to lay up. She will receive a general overhauling of hull and machinery at Burger & Burger's shipyard. The Lawrence made 32 round trips during the past season, the largest number ever made by her. The N. M. Line steamer City of Charlevoix, has gone into winter quarters here. She made 39 round trips.

The U. S. engineers' steamer Lorena has gone into commission, after several years idleness.

The steamer Robert Holland, captain, J. O. Wood, and consorts Stephenson and Parana have gone into winter quarters here. Their season's work was 14 round trips between this port and Washburn, Lake Superior, the largest number ever made by them, and without accident of any kind.

The L. M. & L. S. Co.'s steamers City of Traverse, Peerless and Jay Gould arrived here from Lake Superior during the past week and will go into winter quarters at once.

The stocks of grain in Chicago elevators last Saturday evening were 10,347,000 bushels of wheat, 4,848,000 bushels of corn, 2,561,000 bushels of oats, 429,000 bushels of rye and 55,000 bushels of barley; total, 18,240,000 bushels of all kinds of grain, against 9,213,000 bushels a year ago. For the same date the secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 72,580,000 bushels of wheat, 10,720,000 bushels of corn, 7,471,000 bushels of oats, 1,310,000 bushels of rye, and 2,775,000 bushels of barley. These figures are larger than the corresponding ones a week ago by 1,815,000 in wheat, and smaller by 1,301,000 in corn. The visible supply of wheat for the corresponding week a year ago decreased 1,587,000 bushels.

A very large fleet of steam and sail vessels will winter here. A large number already have their chains out and those that are still loaded will go to their docks and tie up as soon as their cargoes are discharged. Captains, mates and crews are busy dismantling, cleaning and salting down their vessels and the engineers on the steam vessels are busy oiling and putting the machinery in order for future use. All are anxious to get away to their homes as soon as possible.

WILLIAMS.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The steam barges Maine and A. A. Turner will have their engines compounded this winter.

The British steamer Campana, which has plied for some time on the lakes made her first appearance at this port, last week.

The little tug Kunkle Brothers, which has been here receiving a new boiler and deck house, left for her home port last week.

Shortly after the steamer Yakima left port Saturday night, her engine became heated and she was forced to put back for repairs to her machinery. She got away again Sunday morning.

The Erie Canal season has closed. Canal men are better satisfied with the result, though the amount of business was not larger than last year's, but rates have been higher on the average. The fall rates have ranged from 4 to 6 cents for wheat to New York.

The fleet of vessels which will lay up at Buffalo this winter will number only about 125 boats, or but little over half of what wintered here last year. Out of 118 vessels which it is certain will lay up at this port, 84 are steamers and 34 schooners. The complete list is sent herewith.

The steam barge V. H. Ketcham, while going down Niagara River, Tuesday morning, struck a rock while abreast of Whites Island, and was so badly injured that she filled inside of half an hour. The moment after she struck the lead was hove and showed a depth of 17 feet, going to show that she struck a detached boulder on the river bottom.

As far as the volume of business is concerned, the season of 1892 has been the best that Buffalo has ever seen. The great increase has been in the receipts of flour and shipments of coal. Custom house figures show over 9,500,000 barrels with a few cargoes still to hear from. Total grain receipts, including flour as wheat, will foot up very close to 175,000,000 bushels counting in flaxseed which distances last year's record by about 15,000,000 bushels. Coal shipments will amount to more than 2,800,000 tons, an increase of 500,000 above the record of 1891.

Lieut. H. DeHart and Chief Engineer Chester are here to superintend the construction of the steel revenue steamer Calumet, which is building at the shipyard of David Bell. P.

OWEN SOUND, ONT.

Special Correspondence to The Marine Record.

Navigation is practically suspended at this port for this season and as usual Owen Sound harbor is crowded to its utmost capacity with vessels wintering here, among whom I may mention the C. P. R. steamers Manitoba, Alberta and Athabasca, government survey steamer Bayfield, fishery cruiser Petrel, side wheeler Rival, tugs Heather Bell, Arbutus, Ainslie, Douglas, Siskiwit and schooner Artic.

The Bayfield arrived here Wednesday on her last cruise this season. When on her way here she came in contact with nearly a mile of fish net and succeeded in making quite a haul of fish, etc. The fish nets, fishing smacks, etc., were broken up and the fish brought here and sold.

I note in last week's Collingwood Bulletin that they wish to correct an error I made in giving the length of the new wooden steamer being built here. I gave it as 210 feet over all, which I find to be correct. Thanks, "Mr. Bulletin," but begin at home next time and inform the Collingwood correspondent for your paper that it is 210 feet, not 222 feet, as he would have it, and advise him to have courtesy enough to give Capt. Simpson, of this town, the credit for building the boat here, and not lead his readers to believe she was built in Collingwood. For the benefit of these Collingwood men and others, I may state the exact dimensions of this craft as being 196 feet keel, 210 feet over all, 34 feet beam and 12 feet hold.

Capt. Joseph McCall arrived down on the Alberta Saturday morning from Ft. William, where he has had command of a harbor tug all season.

The tug James Storey, of Collingwood, is on the drydock.

The schooner Artic, which came out of the drydock lately, will keep the remainder of her load of lumber on board all winter, when she will reload her deck load and proceed to Detroit early in the spring.

The Alberta arrived Saturday from Ft. William, making the last arrival of the season. The Manitoba has made the largest number of trips, leading the others with 31 trips, the Athabasca 30 trips and Alberta 26. The Alberta's small number may be accounted for by the fact that she was laid up five weeks this summer, getting thoroughly overhauled. T. W. B.

OGDENSBURG, N. Y.

Special Correspondence to The Marine Record.

The schooners F. C. Leighton, Itasca, Ganges and Typo, which brought wheat for Rodee, Bill & Co., are wintering in the upper harbor.

Mr. Frank Chapman has sold his elevator at Morris-town, which has been lying idle for several years, to Brockville parties, who will convert it into a chair factory.

The ferry steamer Henry Plumb, which was nearly destroyed by fire at her slip last summer, is being thoroughly rebuilt at the marine railway.

The amount of grain afloat in this harbor now is the largest ever known in the history of the port and will aggregate about 752,000 bushels.

The following steam barges are wintering here: Pueblo, Topeka, Denver, John Rugee, Omaha, Hecla, Montegale, Monohanset, N. K. Fairbanks Artic and Josephine.

The steamer Monohanset arrived here from Chicago on Monday with corn, to lay up, is in command of Capt. George W. Pardee, a former Ogdensburg boy,

who by his energy, ability and uprightness, has won merited success.

Of the Ogdensburg Transit Co.'s fleet, the H. R. James, A. McVittie, J. R. Langdon and W. J. Averell are laid up at Ogdensburg and the F. H. Prince, Governor Smith and W. L. Frost are in winter quarters at Chicago. The W. A. Haskell is laid up at Detroit, where repairs will be made to her boilers during the winter.

The sloop Emma D, with lumber for Sackett's Harbor, which was driven high on the rocks at Stony Island recently, is a total loss. She was owned by Miles Patterson, of Alexandria Bay, and is the trim little clipper-built sloop frequently seen in this harbor, whose filling canvas and tapering spars, on a bright summer day, rivaled in beauty the curling smoke and flying paddles of the old Sylvan Stream.

Daly Bros., of this city, have a \$42,000 dredging contract for improvements in the upper harbor, in preparation for the execution of which the coming winter they will have a new dredge built by the St. Lawrence Marine Railway Co., with all modern improvements, at a cost of \$22,000, and be ready to commence the work early next spring. The whole appropriation will be expended in deepening the channel at the mouth of the Oswegatchie, and will necessitate considerable blasting. This is a work the need of which has long been felt by vesselmen, especially those with grain for the mill elevator, as vessels with from 20,000 to 22,000 bushels of wheat have to be lightened of about one-fourth their cargoes before coming up the river. With the low water of the past two years, the tugs Proctor, Seymour and Wilson have been unable to come past the R. W. & O. dock.

E. C. R.

DULUTH, MINN.

Special Correspondence to The Marine Record.

In addition to the vessels already noted as laid up here for the winter, are the following: City of Duluth, Hodge, Rust and Barnes. The Hodge is in the drydock of the American Steel Barge Co., this afternoon for repairs to a hole near her stern post, and she is to be followed in a few days by the last vessel that will be able to get into the dry dock this year.

The stocks of grain at the head of the lake are getting larger very rapidly, and far exceed those of a year ago. There are here to-day a total of 9,151,636 bushels wheat and 200,000 bushels other grain. While a year ago, there were only 3,359,000 bushels grain. From this date to the opening of navigation, a year ago the receipts here were 16,000,000 bushels, and while grain men do not look for any such an influx of cereal as that, and indeed, could not handle it if it came, they are daily surprised at the receipts, which are keeping up far beyond all anticipations. It looks very much as if the elevators at the head of the lake would have as much wheat to furnish for vessel loads as they had last spring, when they were the backbone of the tonnage market. Of the wheat now in store in the elevators there are 8,950,000 bushels of the three highest grades, a remarkable record. On the Duluth side of the bay are 4,800,000 bushels. In addition to that, in elevators are 206,000 in vessels, as follows: Schooners, Barnes and Alta, 33,300 and 49,000 bushels respectively; No. 115, 77,000 bushels; Columbia, 47,000 bushels. The whaleback Wilson is loading 96,000 bushels to-day, and enough more will be taken in the next few days by whalebacks and others to make the total of the stocks afloat about 500,000 bushels. The elevator men regard this taking of wheat for winter storage by the vessels as infringing on their peculiar province, and they do not at all appreciate the niceness of the situation.

The most important shipbuilding event of the year, at the head of lake navigation, was the launch of the whaleback passenger ship, Christopher Columbus, as the flag on her bow told visitors to the shipyard Saturday afternoon. Probably not one of those who saw the launch, except persons who have followed the construction of the vessel, but was surprised at the lines of the boat. With the usual "canoidal" bow of the whale, the passenger boat has a run from her bow that would do credit to a yacht, and her stern is as pretty as any that runs on the Great Lakes. She was a nice sight as she lay on the ways, before the ropes were cut and the vessel slid down the ways into the slip. There was nothing of the vessel but the hull and the seven turrets, the upper works will be put on during the winter and spring. The vessel will be in the World's Fair passenger traffic between Chicago and the fair grounds next year, and will have full upper works, but no cabins. The trade that she will go into at the expiration of the fair is a mystery yet locked in the breasts of the managers of the company that is building her. Every pound of steel in the steamer is made of the iron ore found in the Gogebic and Vermilion hills, not 100 miles from the shipyard, and the pig iron was all made at the Duluth blast furnace. The steel was rolled from this pig at the Superior steel

plant, and not one plate had been begun prior to 5th day of September last. From that time there were 450 working hours put in on the vessel to the hour of launching. Had the blast furnace not run so far ahead of the steel plant that it was forced to bank its fires two months ago, there would have been a record made in the conversion of ore to the finished vessel, that would have been a surprise to the easterners.

There have been several men from Ohio and other points in this city this week, figuring on putting in coal docks here in addition to those already established. Just what they will do is yet a mystery. They talk as though they meant to do a large business.

M.

BAY CITY, MICH.

Special Correspondence to The Marine Record.

The steam barges Benton and Empire will have their engines compounded the coming winter.

The McKinnon Manufacturing Co., are building a boiler for the steambarge Arizona. It will be 14 feet long and 10 feet 6 inches in diameter.

Wheeler & Co's wooden yard is again in operation. Work had been delayed somewhat by a lack of timber, but they have now a good supply on hand.

David Lummair the naval architect is making some new and original designs in quadruple expansion engines.

The books of the custom office show that during the past season there were 669 boats arrived and 717 cleared from this port.

The keel of the new steamer building at Davidsons yard has been laid. The frames are cut and ready to put up. She will be a duplicate of the City of Venice.

The tug C. W. Wells in winter quarters at Wheeler & Co's yard was damaged by fire to the extent of \$600 Friday morning. Her upper works were destroyed and her machinery badly damaged.

The Reid Towing Co's tug Sea Gull, which assisted in getting the stranded car ferry Ann Arbor No. 1 off the beach near Ahnapee, broke her tow line, a 19 inch manila hawser five times before the steamer was moved.

The Rifle Boom Co. has used a pile driver for towing their logs to the bay this season. Owing to the low water the steamer E. T. Carrington could not get into the river, and this peculiar tug can navigate where there is two feet of water. During the season she has towed 33,000,000 feet of logs but of the Rifle and Pinconing rivers.

The W. H. Gilbert one of the large freight boats built by Wheeler & Co. the past season, will be strengthened by the addition of deck stringers and sheer strakes. She has not shown any signs of weakness, in any particular, but this will be done as a matter of precaution in consequence of the loss of the Western Reserve and Gilcher. The boats now being built by Wheeler and Co. will be built for strength, carrying capacity being a secondary consideration. All the boats now building by this company, are to be classed by the American Shipmasters' Association, and they are being surveyed from time to time by E. Platt Stratton, the chief engineer of the association who says the construction is worthy of a high class and liberal rating.

The following boats are in winter quarters at this port: Steamers, Metropolis, Dove, Sea Gull, Luther, Westover, E. T. Carrington and R. G. Stewart. Steam barges, Sanilac, Forbes, Lorette, Lizzie Madden, Benton, Tice, Ferrett, Leuty, Maine and Donaldson. Barges, Reid, Fostoria, McDougal, Brainard, Sailor, Goshawk, Lester Elza, Roscius, E. H. Davis, Agnes, Antelope, Walbridge, Cahoon, Ketchum, Grey-Oak, Genness, Sparrow, Pendall, Wesley, Buckhout, Kingfisher, Wright, Webb, Spaulding, Botsford, G. K. Jackson, Seminole, Celtic, Racine, Little Wissahickon and Dundee, Lake Tugs, Moiles, Winslow, Traveller, Acme, Parker, Mocking Bird, Waldo Avery, Peter Smith, Ella Smith, Sarah Smith, Ramage, Niagara, Sweepstakes, Charlton.

LAKE UNDERWRITERS' MEETING.

Special Correspondence to The Marine Record.

CHICAGO, ILL.—The general marine insurance agents at this port will hold a preliminary meeting on Friday and then adjourn for a general meeting to be held the following day at Detroit. The question of extending the rules of the Inland Lloyd's Register to meet present requirements will be thoroughly canvassed from an underwriters' standpoint.

The present feeling here is that all interests ought to combine, and that owners, builders and underwriters should be fairly represented on the classification committee. Although no fixed plans have, it is said, yet been adopted, there are of course personal leanings. Some want a universally known classification endorsed, others desire a broadening of Inland Lloyds and new talent enthused into it; while still others have expressed a desire to see a competent representative association got together and entirely new rules promulgated for

the building, surveying and classification of wooden, composite, iron and steel vessels.

The Saturday's meeting at Detroit ought certainly to eventuate in something positive being done. Whatever line of procedure may be adopted, it will take every moment of time to compile rules, survey and class the modern tonnage of the lakes, ready for next spring so that early action is not only desirable but imperative.

PORT HURON, MICH.

Special Correspondence to The Marine Record.

The shipyards at this point will be busy the coming winter on a large amount of repair work. The steamer City of Milwaukee receives new decks, deck frames, stanchions and other repairs, and will also be equipped with a complete electric light plant. The steambarge Canisteo will have a thorough overhauling, both of hull and machinery. The steambarge Weston will have new decks, deck beams and other repairs. The old schooner Potomac, which has been in much trouble this year, will get a thorough rebuild for her old insurance rating. It is likely that she will be purchased by Port Huron people. The schooner Ida Keith, which ran on South Fox Island, is receiving a new keel, bulwarks and a large number of bottom plank. A new boiler will be placed in the steamer Arundel. The John Breden will be practically rebuilt and the Gebhart will have new decks, deck beams and top planking.

The Jenks Shipbuilding Co. is building a steam barge for the lumber trade. She will be 158 feet keel, 30 feet beam, 11 feet deep, with engines 16 and 30 by 26 inches. The other steam barge is 178 feet keel, 34 feet beam and 12½ feet deep, with engines 20 and 40 by 30 inches. The engines and boilers will be built by the Phoenix Iron Works, of this city.

ISIS.

MARINE PATENTS.

Special Correspondence to The Marine Record.

WASHINGTON, D. C.—Patents for the following appliances for marine uses has just been granted:

Boiler furnace, W. R. Parks, Palmer, Mass.
Boiler furnace and smoke consumer, J. Connelly, Des Moines, Iowa.
Marine boiler furnace, F. Barclay, Beatrice, Neb.
Steam boiler furnace, F. Barclay, Beatrice, Neb.
Engine reversing gear, J. O. Des Chapelles, Havana, Cuba.
Fire kindler, E. Elsinger, Savannah, Ga.
Boat propeller, F. Giles, S. Yarra, Victoria.
Anchor riprap, D. Neale, Ft. Calhoun, Neb.
Deepening rivers etc., J. Schaffer, Kirkwood, Mo.
Appliance for cleaning ships bottoms, J. J. McCutchan, Lynn, Mass.

LAUNCH OF THE ANN ARBOR NO. 2.

The steamer Ann Arbor No. 2 was successfully launched from the yards of the Craig Shipbuilding Co. on Wednesday. She will be fitted out at once, and will go to Kewaunee, Wis., where she will keep open winter communication between Kewaunee and Frankfort, Mich., in the car ferry service of the new Lackawanna line to the northwest.

DAMAGES DIVIDED AS USUAL.

In the United States Circuit Court, at Utica, N. Y., on Tuesday, Judge A. C. Cox presiding, the action in admiralty brought by John Donaldson vs. the steamer Kate Buttironi was argued and decree entered assessing the damages and costs equally upon both vessels, the Buttironi and the propeller Cuba, owned by the libellant. The action grew out of a collision on Lake Erie whereby the Buttironi collided with and badly damaged the Cuba. The libellant claimed that the Buttironi was running faster than was allowed by law at the time of the accident, when a dense fog was prevailing.

The defense was that inasmuch as the Buttironi was towing several boats at the time, she was not going at a fast rate of speed. The libellant claimed as damages \$13,000. Argued by Harvey D. Goulder, Cleveland, for respondent, and George Clinton, Buffalo, for libellant.

CLOSING OF ST. MARY'S FALLS CANAL.

St. Mary's Falls canal closed Wednesday, after the greatest season in its history. The freight which passed through this year reached 11,241,000 tons, an increase of 2,325,000 tons over last year. Every important article of commerce shows an enormous increase. Grain increased 61 per cent., flour 43 per cent. and iron ore 38 per cent.

Suit has been brought by Abram Smith of Algonac and Avander H. Shafer of Detroit, who owned an interest in the steamer Oswegatchie, against the Security and the Eureka Fire and Marine Insurance companies to recover their shares, \$625 each, in the insurance policies.

SHIPPING ALIEN SEAMEN.

The Seaman's Union was defeated recently in its attempt to hold Captain William H. Landgraf, of the schooner *Ida Keith*, amenable to the alien contract labor law. Last June Captain Landgraf discharged two of his crew at Port Huron and put across the river to Sarnia, where he discharged the balance of the union men. He then hired a non-union crew of Canadians and sailed the schooner to Chicago. The Seaman's Union had him indicted for violating the alien contract labor law. Judge Bunn instructed the jury to bring in a verdict of not guilty on the ground that Congress did not intend, in the contract labor law, to prevent the employment of alien sailors for service on American vessels plying on the great lakes. He overruled the contention of the prosecution that the master of the *Keith* was not properly engaged in international commerce, hence not exempt from the action of the law.

A LAKE MICHIGAN RAILROAD CAR TRANSFER SERVICE.

(Illustrated).

The Toledo, Ann Arbor & Michigan Railroad Company placed an order with the Craig Ship Building Co., Toledo, O., last summer for the construction of two large wooden steamers to be used in keeping open winter communication across Lake Michigan between Frankfort, Mich. and Kewaunee, Wis., a distance of sixty-three miles.

The first of these steamers was launched on September 28, and named the *Ann Arbor No. 1*. On November 28th she loaded twenty-four railroad cars of freight at Kewaunee, and proceeded on her maiden trip, to Frankfort where she arrived all well. During the passage from Lake Erie to Lake Michigan, several gales of wind were experienced and the seaworthy qualities of the boat were thoroughly tested with the most satisfactory results.

The general dimensions of the hulls and machinery of both steamers are 261 feet overall, 52 feet beam, and 18 feet depth of hold, engines, three compound, two aft for driving twin stern propellers and one forward for the bow wheel. The bow screw sets well aft of the stem, and occupies a position clear of the keel. The lower edge of the propeller blades are flush with the keel making it impossible for the blades to touch bottom before the keel. Engines, diameter of cylinders 20 and 40 inches by 36 inches stroke of piston, built by Samuel F. Hodge & Co., of Detroit, and they are also fitted with independent air pumps. Boilers, each steamer has a battery of four boilers, built by the Lake Erie Boiler Works of Buffalo, and tested for 160 pounds steam. The boilers can be worked separately, as also the engines.

Both steamers are specially constructed for, and will be used to carry railroad cars across Lake Michigan from Frankfort to Kewaunee, and this they will do throughout the entire winter months. The hulls are so shaped that they will rise above and crush down the ice, and by reason of their three propellers be enabled to back quickly astern, then by means of the two steam screws go ahead in one-sixth of the time that would be required by vessels using single screws.

The *New York Times* in commenting upon the construction of the sister ships *Ann Arbor No. 1* and *No. 2* as vessels adapted for naval purposes, states "that their displacement is slightly in excess of that accorded in the new Ammen harbor defense ram now building for the United States, and the three screws are placed one on each quarter, well forward of the stern, and the third in the bow.

The battery of the *Ann Arbor* can be made up of as heavy ordnance rifle as the Navy Department may desire. This is a statement that cannot be applied to the greater number of the numerous merchant steamers now on the lakes. The majority of the lake vessels have extremely light spar decks.

With the advent of the *Ann Arbor* and five more vessels of a similar type, the defense of the lakes is now deemed well-nigh assured, and this disposes to a great

extent of the many disadvantages under which the United States has suffered by reason of the treaty of 1817. Under this treaty the war ships on the lakes have been restricted to one for the United States and one for Great Britain."

It is not, however, as naval defense vessels that these railroad transfer steamers will distinguish themselves, their ice-crushing and seaworthy qualities being, no doubt, all that their owners and the builders would desire to claim for them.

A WELL KNOWN LAKE SEAMAN.

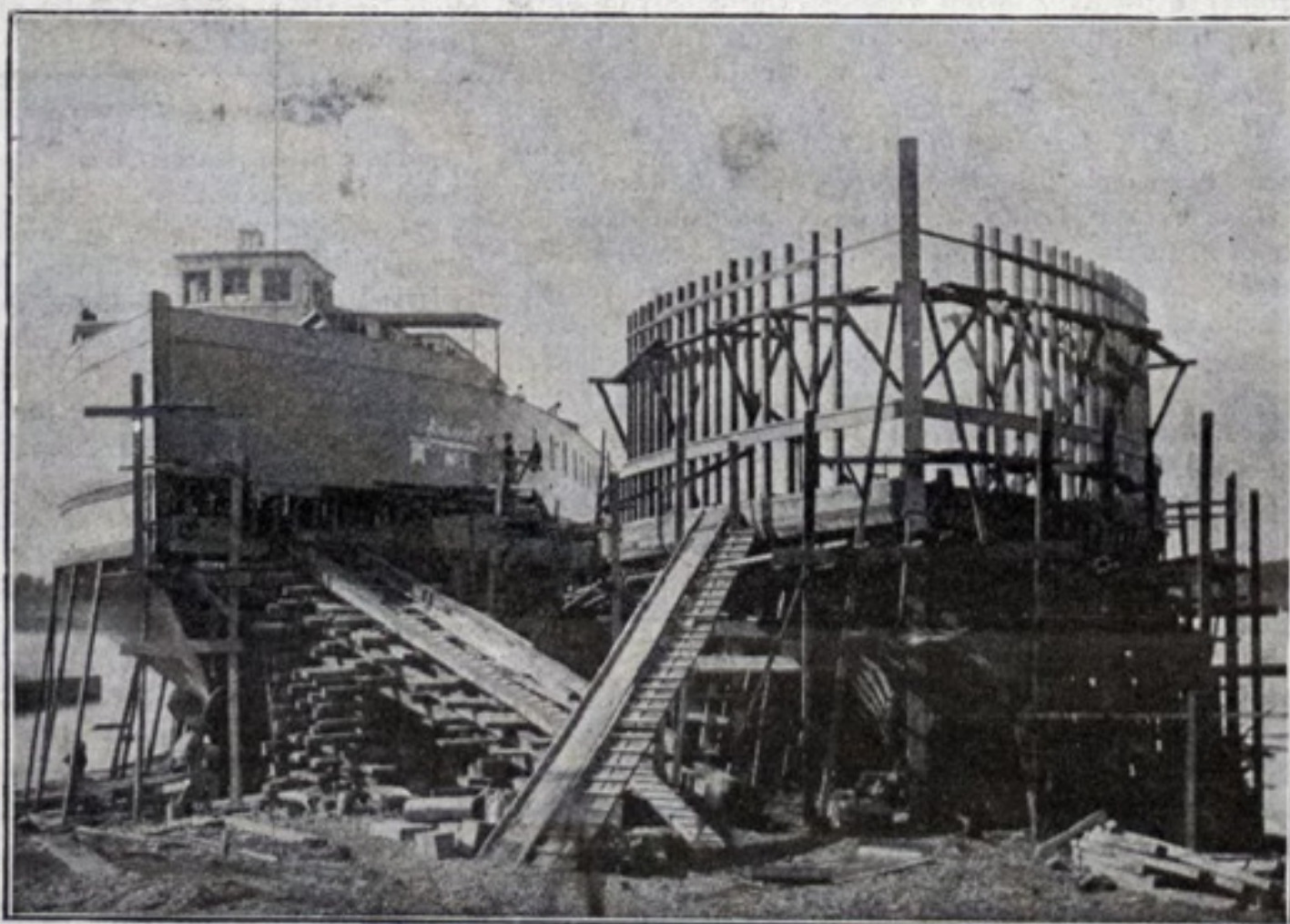
Captain Ed. Kelley, whose portrait we present herewith, superintended the construction of the *Toledo, Ann Arbor & North Michigan* railroad transfer steamers



CAPT. ED. KELLEY.

Ann Arbor Nos. 1 and 2, taking command of *No. 1* and placing her on the station between Frankfort and Kewaunee only last week. The three wooden light-ships recently built by the United States Light-House Board, and the first government light-ships ever built provided with their own power for lake service, were also superintended in their construction and equipment by Capt. Kelley, whose genial manner and wide experience as an American shipmaster in both sail and steam, constitute him an authority in constructive work.

The subject of this brief sketch followed in the steps



ANN ARBOR NO. 1 AND NO. 2, BUILDING.

of his father, who was a sea captain, and early embarked in the hardy profession, serving his first few years between the West Indies and New England ports. Eventually, he like many other native seamen, when American tonnage was swept off the ocean, found his way to the lakes and sailed for the New York Central railroad out of Buffalo, and later for the Union Steamboat Co. In 1872 he superintended the building of the steamer *Oscar Townsend* and afterwards the steamer

Edward Kelley, of which he was part owner. Finding his health growing somewhat precarious, Capt. Kelley left the lakes and spent two years in the Rocky mountains and returning at the expiration of that time, he sailed several years for the late R. K. Winslow, afterwards taking command of the *Corrigan* Line steamer *Aurora* and later of the *Fedora*, though for the past two seasons his time has been chiefly occupied in the constructive work of the vessels mentioned in the foregoing.

Last winter the Captain suffered from a severe attack of the grippe, from which he has never entirely recovered, and the thirty years hard service he has undergone afloat seem to have somewhat impaired his constitution, although yet a vigorous, energetic seaman, and with the effects of his recent illness eradicated, would be good for at least another quarter of a century.

FOR THE WIDOWS AND ORPHANS.

There has come into our possession through the courtesy of Captain Orville W. Green, a document which reflects the prosperity of Oswego, N. Y., a quarter of a century ago, and proves how laudable the efforts of shipmasters were at that time to care for the widows and orphans of deceased sailors. The *Excelsior Marine Benevolent Association*, composed exclusively of shipmasters, now cares for the families of deceased members through a mutual insurance fund, yet, there is room for a still wider organization to care for those whose bread-winners are not eligible to membership in any of the present associated bodies, and therefore, when a fatal casualty occurs, and their only support is swept from them, there is nowhere to turn to for aid in the dire moments of their distress. The document spoken of above, is as follows:

"BE OF GOOD CHEER, WE WILL STAY BY YOU."

FIFTH ANNUAL BALL

OF THE

SHIP-MASTERS' RELIEF ASSOCIATION.

FOR THE BENEFIT OF THE

WIDOWS AND ORPHANS OF DECEASED SAILORS.

At Doolittle Hall, Oswego, on Friday Evening, January 29th, 1858, at half past seven o'clock.

OFFICERS OF THE ASSOCIATION.

C. PARKER, President.		J. M. O'LEARY, Secretary.	
VICE PRESIDENTS.			
John T. Van Alstine.	Wm. Williams.	Daniel King.	Albert Fitzgerald.
Peter P. Wright.	P. J. Goss.	R. Stearns.	J. L. D. Kimball.
James Lockridge.	Wm. Thompson.	S. A. Williams.	Robert Hayes.
	Wm. M. Sweetland.		

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MASTERS.

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J. Pilling.	R. Stearns.	O. Green.	W. Thompson.
S. Williams.	R. F. Child.	J. McIntyre.	R. Hayes.
W. Town.	F. Peacock.	J. T. Van Alstine.	A. Fitzgerald.
J. F. Tyler.	S. Fitzgerald.	T. Cronley.	J. Papa.
J. Jenkins.	A. M. Kirby.	R. Johnson.	J. C. Bush.
J. Murphy.	G. Clement.	A. Stowell.	C. Clement.
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G. Vickery.	J. Igoe.	C. Green.	D. King.
E. Faulkner.	J. Tyler.	G. Eason.	J. H. Redfield.
J. Green.	W. Baldwin.	G. F. Rogers.	J. Rogers.
H. Manwarring.	W. McDonald.	J. Crowley.	G. W. Allen.
H. Williams.	W. Williams.	P. J. Goss.	R. H. Spencer.
P. P. Wright.	A. Robinson.	J. Johnson.	W. Linder.
G. Blair.	J. M. Turner.	C. Sweet.	J. Braman.
J. D. Ledyard.	D. Wood.	J. Vorce.	J. M. Barrows.
E. W. Cross.	W. Sweatland.	W. H. Manwarring.	J. G. Richardson.
J. Lavery.	N. Wright.	T. Igoe.	G. Wright.
J. Lockridge.	— Daggett.	J. Palmer.	B. Hawkins.
		C. Hutchison.	

HONORARY.

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J. H. Bloore.	D. DeWolf.	W. Crawford.	J. Noyce.
F. T. Carrington.	J. Clemow.	J. K. Post.	S. H. Lathrop.
T. V. Avery.	A. G. Cook.	E. B. Judson.	C. Smyth.
L. B. Crocker.	W. I. Tozer.	W. Baldwin.	J. W. Buttolph.
J. M. Crolius.	T. Irwin.	A. F. Smith.	D. C. Littlejohn.
M. M'Nair.	E. B. Talcott.	R. Green.	W. H. Herrick.
A. H. Hovey.	A. J. Latham.	S. H. Johnson.	O. H. Hastings.
L. Wright.	S. J. Holley.	H. G. Eastman.	H. Fitzhugh.
Wm. Morgan.	T. Debbie.	R. Hawkins.	G. F. Dixon.
	J. B. Penfield.	Arza Crane.	

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FLOOR MANAGERS.

A. M. Kirby.	L. Beardsley.	C. Parker.	R. Hayes.	J. T. Van Alstine.
J. L. D. Kimball.	H. Perry, Jr.		W. H. Manwarring.	

MUSIC BY PECK & STONE'S WALTZ AND QUADRILLE BAND.

CARRIAGES IN ATTENDANCE AT SEVEN O'CLOCK.

Oswego, January 27, 1858.

TICKETS TWO DOLLARS.

AN ENORMOUS LUMBER INDUSTRY AT MENOMINEE, MICH.

Never before has the season's cut of the saw-mills on the Menominee River equalled that of the season just closed. The Menominee mills exceed the Marinette mills for the first time by 1,000,000 feet. The total amount cut at the two places is: Menominee, 287,492,348; Marinette, 286,618,774. Total, 574,111,122, or 107,750,914 in excess of 1891. The total of Menominee in 1891 was 240,357,000. The winter's cut of logs will be larger than ever before, owing to the fact that operations were begun at least a month earlier than heretofore.

A UNITED STATES CLASSIFICATION SOCIETY.

There has appeared in the columns of THE MARINE RECORD a resume of the origin, standing and business of the principal ship classification societies of the world, and we herewith give a synopsis of the most recent organization for rating and classifying vessels.

A brief digest of the principles ruling this new association will no doubt be of great interest to our readers at this time:

This Association, with the somewhat cumbersome but expressive title of the United States Standard Steamship Owners', Builders' and Underwriters' Association was organized in New York, in 1889, for the purpose of providing a system of classification for iron and steel vessels and adequate rules for their construction. The governing principle of the

new organization was that the shipowner, the shipbuilder and the underwriter were equally interested in the classification of ships, and that each interest was entitled to an equal voice in the preparation of the construction rules on which the classification must be based. It must be admitted that such an arrangement, if successfully carried out,

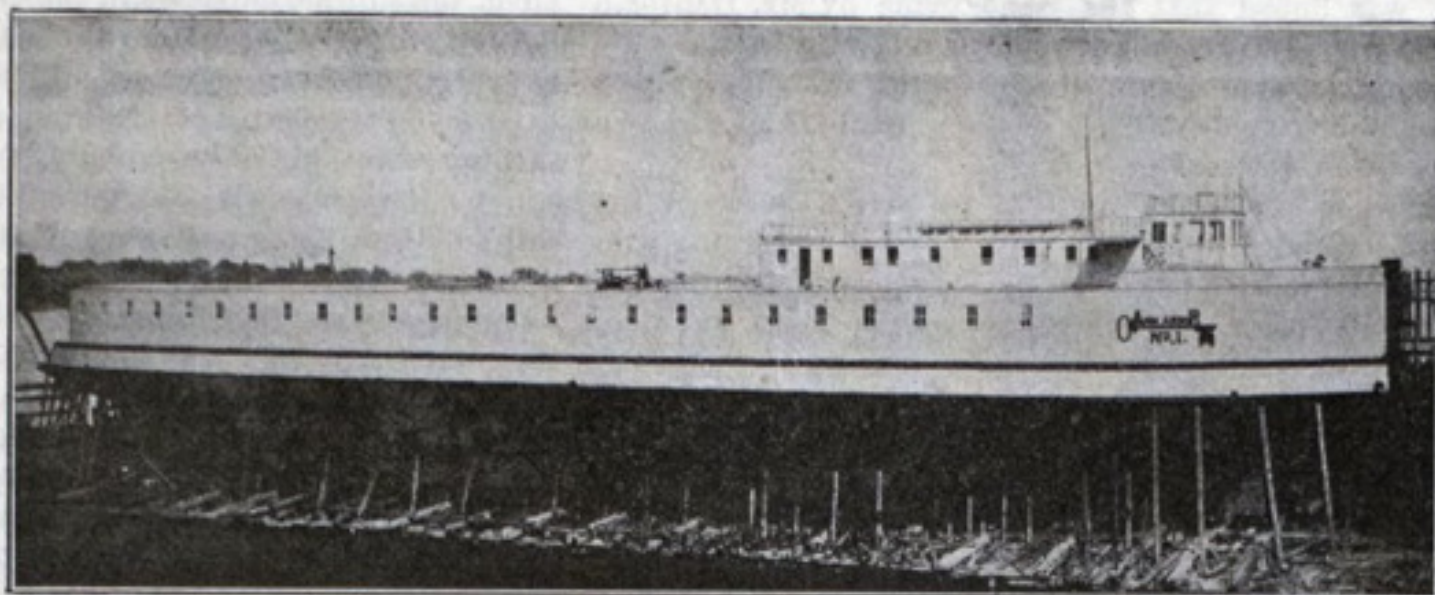
offers the fairest and most satisfactory solution of a difficult problem, and that it has been successful in this case is indicated by the character of the membership of the association, by the long list of important tonnage classed in its register book and by its close connection with the shipbuilding of the country. An examination of the issue of the register for 1892 and its supplements shows that all the iron and steel vessels of any importance built on the coast since its establishment have, with very few exceptions, been built under the rules and inspection of this association. The list includes all the additions made of late years to the tonnage of the Pacific Mail Steamship Co., United States & Brazil Mail Steamship Co., New York & Cuba Mail Steamship Co., Ocean Steamship Co., Boston & Philadelphia Steamship Co., Wm. P. Clyde & Co., C. H. Mallory & Co., Merchants' & Miners' Transportation Co., Baltimore Steam Packet Co., Metropolitan Steamship Co., Central Railroad Co., of New Jersey, steamers for foreign account, etc. In addition to seagoing vessels, which it has always been the custom to class, the association has extended its classification to certain classes of vessels which, like our lake vessels, it had never been customary to subject to any inspection. This list includes the famous Long Island Sound steamboats Puritan, Plymouth, Pilgrim, Richard Peck, Maine, New Hampshire, Hartford, City of Taunton, Fall River liner now building; such well-known steam yachts as Mr. H. M. Hanna's Comanche, Mr. J. Pierpont Morgan's Corsair, Mr. T. L. Parks' Sultana, Mr. Lloyd Phenix's Intrepid, the Golden Fleece, Utowana, etc., and inland and other passenger steamers. Of more immediate interest to our readers, however, is the comparatively large number of lake vessels already classed in this book, when it is remembered that until recent events had brought this question of classification prominently forward, but little interest had ever been taken in it, it is rather surprising to find that the owners of some of the best known steamers on the lakes have had them classed. These steamers are the Castalia, Virginia, Tioga, Andaste, Choctaw, Griffin, Wawatam, Joliet, La Salle and others.

In considering the work of this association, it must be remembered that it has confined its attention exclusively to iron and steel vessels, on the ground that on the development of this form of construction the future of American shipbuilding mainly depended. This has kept it in a very important but somewhat restricted field. We are informed, however, that it has been decided to extend the system to wooden vessels as well. This decision is the result of a determination to provide a comprehensive and practicable system of classification for lake vessels, which we must acknowledge has become from every point of view plainly the need of the times. The present rules of the association for iron and steel construction have been drawn up with the assistance and approval of the foremost shipbuilders on the lakes and are now being followed in the construction of several large steamers at present building, while a committee composed of Mr. John Craig of Toledo, Mr. James Davidson and Mr. George F. Williams of West Bay City, and Mr. Edward Gaskin of Buffalo, is at work

preparing a comprehensive set of wooden ship building rules such as has never before been drawn up. These rules are to be submitted to ship owners and builders generally for approval, and it is expected will receive the endorsement of the underwriters.

That ship owners and builders will be called upon, in the near future, to conform to some rules of construction, we believe to be inevitable, and we think the measures now being taken by the Standard Association to provide such rules, in a spirit of fairness to all the interests concerned, worthy the thoughtful consideration of all interested in this now-important question.

The success of such a departure must depend in no small degree upon the surveyors appointed to carry out the rules, and in this respect the association has certainly done well by the lake interests. The local surveyors



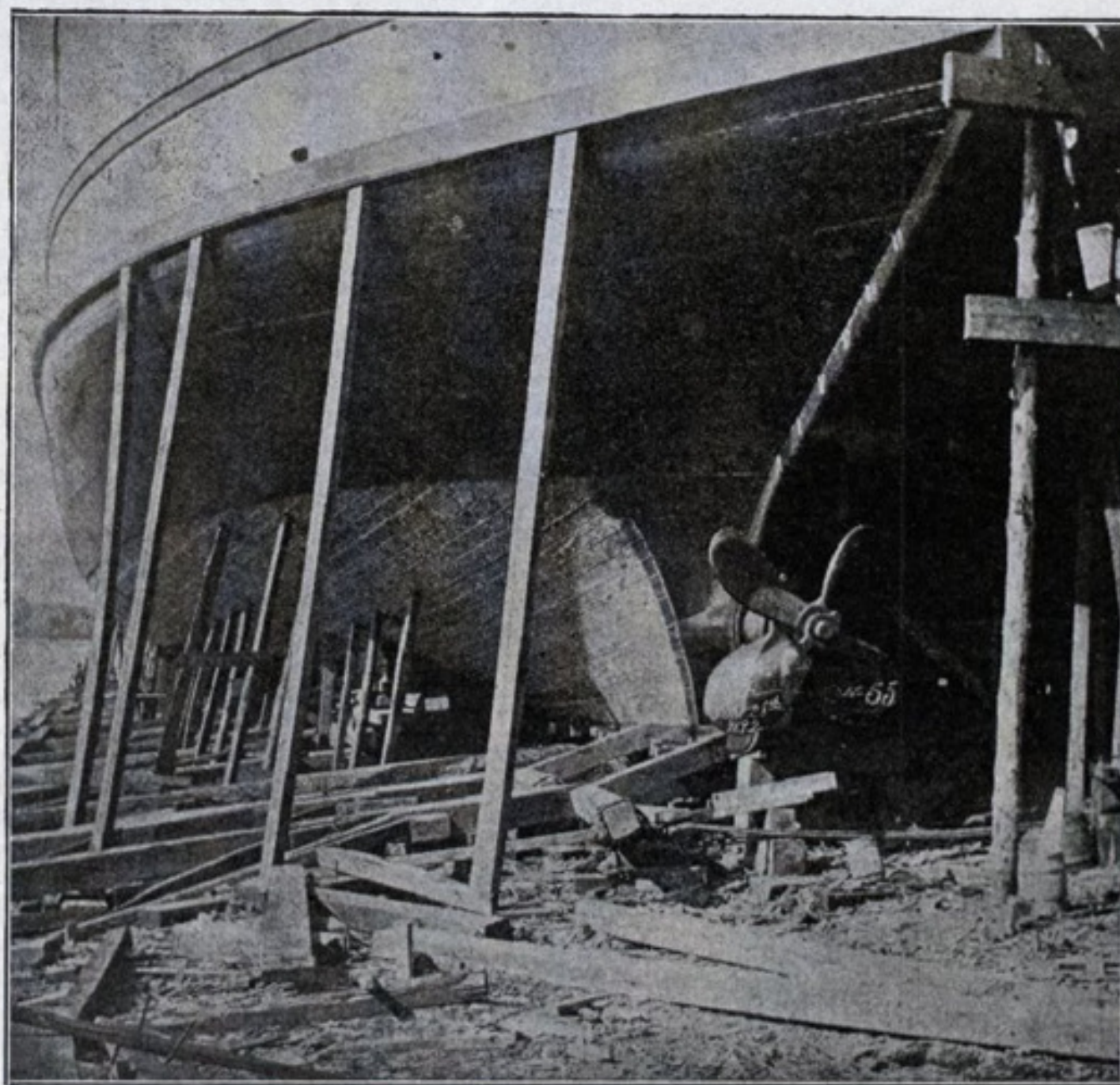
READY FOR LAUNCHING.

will be Mr. Geo. F. Williams and Edward Gaskin, who hardly require introduction to our readers. While Mr. Sinclair Stuart, well known both on the coast and lakes, as a man well posted on metal construction, will exercise a general supervision over iron and steel vessels.

The office of the association is in the Post Building, 16 and 18 Exchange Place, New York City.

SERVICE IN THE U. S. NAVY.

Report has been made to the Navy Department that an expert seaman who for 25 years has served under the United States flag in all parts of the globe has been denied naturalization as an American citizen. The



END ON VIEW OF BOW.

officers of the department deprecate this construction of the law, but there have been many similar cases and there is no hope of relief except in congressional enactment. Nevertheless, Commodore Ramsay, chief of the navigation bureau, is about to renew his efforts to improve the condition of Uncle Sam's sailors and to have the same benefits extended to them that are enjoyed by the private soldiers in the United States army. Unless this is done, says the commodore, it will be impossible for the department to offer sufficient inducements to the best sailors to cause them to remain in the service.

ESTIMATES FOR AIDS TO NAVIGATION.

In the estimates for next year, which have just been submitted to Congress, the following improvements, according to Secretary Charles Foster, are "indispensable": a light and fog signal at Big Bay Point, Lake Michigan, \$25,000; a fog bell on Sand Point, Lake Michigan, \$1,100; a light and fog signal at Fourteen-Mile Point, Lake Superior, \$20,000; a range light station at Grassy Point, near Toledo, \$8,000; a patrol steamer for St. Mary's river, \$4,000; a steam fog signal at Ludington, Mich., \$5,500; lights for St. Mary's river, \$145,562; light station at Seul Cheux Point, Lake Michigan, \$3,500. The following are considered "necessary": light-house and steam fog signal at Ballard's Reef, Detroit river, \$100,000; extension of Cheboygan River frontlight, \$1,750; supply and buoy depot, Scammon's Harbor, Lake Huron, \$15,000; light at Eagle Harbor, Lake Superior, \$5,500; range light, Grassy Point, Lake Erie, \$4,100; steam fog vessel, Straits of Mackinaw, \$2,500; steam fog signal, South Island, \$5,500. The following are "desirable": steam fog signal, Fairport Harbor, \$4,700; light station, Port Clinton, \$1,500; light, South Bass Island, \$8,600.

TO ABROGATE A NOXIOUS TREATY.

WASHINGTON, December 5.—According to Senator McMillan's request, a report on the subject of war vessels on the lakes will be sent to the Senate by the State Department during the coming week. The information was asked for by resolution passed in the early part of last session, after a shipbuilders' convention had been held in Cleveland, O., and considerable surprise was expressed that the reply was not received before Congress adjourned. The object of the resolution was to make the State Department show cause why the act passed in 1866, requiring notice to be given to Great Britain of the desire of the United States to abrogate the treaty regarding the number of vessels to be kept on the lakes, had not been carried out. The reply of the department will be the basis for congressional legislation looking to a modification of the treaty which will admit of the construction of war vessels by firms on the lakes. The same resolution asked the Secretary of the Navy for information as to whether or not any bids from lake firms for the construction of war vessels had ever been rejected because work of this character was held to be a violation of the treaty. The Secretary of the Navy promptly replied that one rejection had been made on this account.

The State Department has been accused of evading the joint resolution calling for the abrogation of the treaty. There are many people who think that the treaty has been abrogated. There is no doubt that such a resolution was passed, and it is on record that notice was given Great Britain, in accordance therewith, of the intention of this government to abrogate the treaty. What followed is a mystery outside of the diplomatic world. It is understood that the statement will show that the notice issued under the act was withdrawn within a few days after it was issued, and that, for reasons then exist-

ing, both countries agreed to consider the treaty still in force. It will be further shown that the treaty is so regarded to the present day by both governments, notwithstanding the act of 1866.

THE Record of American and Foreign Shipping, issued by the American Shipmasters' Association, has just classed the American three masted schooners, Hugh Kelly and Nelson E. Newbury, American ship Iceberg, British schooners Geraldine and Tyrone, and British half brig R. L. T.

The Marine Record

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CLEVELAND, O., DECEMBER 8, 1892.

It seems a temporizing, quibbling, not to say niggardly or short-sighted policy, that singles out aids to navigation that are imperative, or else not required at all, and classifies them as "indispensable, necessary and desirable." Any aid that is necessary to carry on the vast commerce of the Great Lakes is beyond doubt indispensable, and if desirable, the necessity is proved by the recommendation that such an aid be established. All warranted aids are desirable, otherwise they may be wiped off the calendar, and the committee in whose hands this important federal legislation is placed should discountenance such impecunious nibbling at the public treasury, and vote straight through for all requisite aids to lake navigation.

THERE was published in our issue of November 24th, under the caption of Locating Dangers to Navigation, the following paragraph:

"Last spring Col. William Ludlow, Corps of Engineers, U. S. A., requested masters to mark or buoy any dangers, such as wrecks, reefs or shoals, that they might meet with or discover."

The credit of the valuable suggestion is due to Commander Nicoll Ludlow, U. S. N., inspector of the ninth light-house district, and not to Col. Ludlow of the Corps of Engineers. The similarity of the names is not alone responsible for the error, however, as there has never been a district engineer officer who has worked more zealously for the lake marine interests at large than the Colonel.

THE United States Supreme Court has just affirmed the judgment of the United States Circuit Court in the Chicago Lake front case involving an untold amount of money and the riparian rights of the State to submerged territory bordering the Illinois shores of Lake Michigan for one mile. The action of the General Assembly or State Legislature in granting the railroads absolute privileges twenty-three years ago has been ruthlessly and legally set aside and it is now determined that the territory is held in trust by the State for the benefit of the people. This is a most important decision and will affect the principal lake ports. Cleveland has had the screws put on by the railroad monopolies in the same manner as Chicago, but a halt may now be called on these water grabbing propensities with a positive degree of authority. Well done Chicago!

THE New York Times has the following to say about the railroad transfer ferry boats:

"There has just been launched from the yards of the Craig Shipbuilding Company, of Toledo, O., a vessel which in two hours' time can be converted, in all respects, into a harbor defense ram, and with a rapid-fire battery, well-protected by steel shields, can justly be expected to silence any craft the British are able to send through the Welland or St. Lawrence River canals. The new vessel is the Ann Arbor No. 1, built for the Toledo, Ann Arbor & North Michigan railroad and designed expressly for immediate conversion into a war ship on the breaking out of hostilities. The new vessel has been duly inspected by a representative of the Navy Department, and those in naval circles in a position to know declare that, had the new vessel been intended exclusively for war purposes, she could not have been better designed. The Ann Arbor will soon be followed, by a second vessel, a duplicate throughout, and later by four more vessels of still greater efficiency."

The above is certainly news to the lake marine, as it has never been even surmised that the two transfer steamers were capable of entering upon any other but the special work or trade for which they were designed. If the Ann Arbor No. 1 and 2 would make harbor defense rams, the large powerful steamer of similar design now building at the yards of the Detroit Dry Dock Co., for winter service in the Straits of Mackinac, should also be capable of being converted into a ram at short notice, as also would be the St. Ignace. It seems to us, however, that the Times guesses wide of the mark in this allusion to harbor defense rams for lake ports.

DISCIPLINARY.

A great deal of interest has centered in the case of assistant engineer G. W. Danforth, U. S. Navy, who was court-martialed and sentenced to one year suspension from rank for refusing to leave his watch and go on deck at the call of a young lieutenant. The Secretary of the Navy, B. F. Tracy, has not only approved the finding of the court-martial, but says that the offense was "clearly a violation of the express regulation requiring engineers on duty to conform to the orders of the officer of the deck, who is the representative of the commanding officer of the vessel and is entitled to obedience from all officers of whatever rank, whether of the line or staff."

But for the extreme youth and inexperience of the accused, the Secretary says, he would have returned the record of his trial to the court with a recommendation for a more severe sentence.

It was hoped that the issue made by Mr. Danforth would be the means of defining the relations between the staff upon a plane more in accordance with the importance and responsibilities of the members of the two branches of the service.

There is a positive limit to be placed between the authority and duty of the deck officers and those who control the motive power of the ship, but, where the line should be drawn, over which the engineer need not step, or the deck officer invade, we are not in a position to state at this time.

Steam has now made engineering a science and elevated the competent artificer to a profession, and this too, both in the naval and merchant service. As things now go, steam controls everything on board ship, without which she remains a helpless tank upon the surface of the water, as long as she can stay there. Engineers, realizing that the absolute dependence of the ship and all that belongs thereto is placed under their hands, seek to obtain that standing to which they are so justly entitled, and from present indications we surmise that future developments will demand that not only the master, but also the officers, will need to be theoretical if not practical engineers, or else engineers on the acquirement of navigational skill will be given entire charge of the ship both as commanding and executive officers.

That the future of steam and electricity has this feature of technical superiority in store, has often been advanced, and from different standpoints, at first only to be sneered at, later to be listened to as the suggestion of a warped imagination, and now as a matter of present import requiring serious consideration in many lines of trade and traffic. There is ample room for officers of both degrees, yet, which is to be subordinate in the near future will only be determined by the law of the "survival of the fittest," and it does look as if they who knew how to control the propelling or motive power were the fittest to conduct the venture in safety from port to port. As an indication of the feeling now existing in this matter in naval circles, Chief Engineer Melville, U. S. N., says in connection with an increase in the number of engineers for the navy: "The only opposition to the bill now before Congress providing for such increase thus far has come from some of the officers of the navy, who seem to view with jealous distrust the growing importance of the engineering branch of the service and see in it an imaginary menace to the supremacy of the positions which they have inherited from naval conditions now obsolete."

Nothing further, we think, is required to prove that the lines are being drawn closer than formerly, and Commodore Melville's observations are shared in by a large majority of technical men.

DEFLECTION OF THE COMPASS ON LAKE SUPERIOR.

Navigating along the north shore of Lake Superior seems to be somewhat hazardous according to the well verified statements of observant shipmasters in that trade. The vast mineral deposits on the land are said to exercise an erratic influence on every well adjusted compass, thus rendering the courses steered almost useless for determining the position of the vessel, in thick weather and at other times a cause of great anxiety to the careful shipmaster.

Notwithstanding the general, and from present knowledge, we may add, irregular deflections of the compass experienced in the locality by both wood and iron steamers, there is yet no positive data of any kind at hand except the bare verbal assertion of those navigating in the vicinity whereby computations might be entered into and the result brought to bear in an intelligent manner in cases where a sudden or even a gradual deflection of the compass might be expected to exist, so that while we have well authenticated evidence of magnetic influences being at work, the amount or direction of the power felt is still a mystery even to those whose paramount duty it is to be thoroughly conversant with the changes in terrestrial magnetism likely to be found in the navigation of Lake Superior.

Judging from the many reports that we have heard

from masters, mates and pilots it may be inferred that the attraction draws the north end of the needle, therefore, bringing the vessel close in with the land on the north shore when steering on northerly courses, all of which we doubt not may be correct, but, there may be the gravest doubts expressed regarding the influence being exerted from the land or coast, for, before a compass would feel the influence of the mineral deposits now known to exist, the vessel would be too close in shore for safety, as witness the effects of local attraction, and at how short a distance the powerful agency of large stock-piles is rendered inoperative may be clearly demonstrated at all ore shipping and receiving ports.

The question of land at any moderate distance affecting the compass has been thrashed out during the past two centuries, and in almost every case it has been shown that no magnetic influence from the shore could effect the ship's compasses in the ordinary course of navigation, nor do we believe, that after reliable data has been obtained, such an influence will be found to exist along the shores of Lake Superior. There is a disturbing effect, but it is probably from the ground over which the vessel sails, and the submerged land near the ship's bottom being possessed of magnetic properties, as it undoubtedly is, the effect may vary by sometimes repelling and at other times attracting the north point of the compass.

A fair illustration of such an experience is found in the log of a surveying ship, which, on running along steady three miles off shore, suddenly found her compass deflected nearly three points. In this case it was found that the center of disturbance was only fifty feet in diameter and at a depth of nine fathoms. On drifting slowly over the magnetic ridge several times in a southeasterly direction, the greatest disturbance experienced was from a force repelling the north seeking end of the needle, amounting to 23° when on the north-west side of the center, to 55° on the south-east side and an increase in the dip of the needle of 33°, but these large values of nearly five points in the declination and three in the dip or inclination were confined to a very small area and were not felt at all half a mile in any direction from the center.

So important a scientific and navigational result as the foregoing was only obtained after due diligence being observed in tracing an effect to the cause. Nor, can it be expected that without a similar well directed interest being displayed, will the cause of the deflection of the needle on the north shore of Lake Superior become generally known.

Another instance of a large magnetic disturbance within a very limited area is found from observations taken on shore some years ago at New Zealand, which, if found to exist on the northwestern lakes would very likely have sent mining experts prospecting for ore. On the summit of a bluff the declination was found to be 6° 54' E., thirty feet north of that position the deflection was 9° 36' W., thirty feet east it was 46° 44' E., and thirty feet west 5° 04' E. If such a reef as this was submerged, and there may be many such along the shores of Lake Superior, it would not require a vast amount of demonstrating to prove that its influence was felt in the deflection of the compass when a ship was passing over it instead of as now ascribing the effect to influences at work several miles away.

INTERNATIONAL WRECKING COURTESIES.

The recent action of the Lake Carriers' Association in endeavoring to again bring before the legislative powers the mutual concessions necessary to promulgate international wrecking courtesies on the lakes and rivers, is timely and well advised.

The matter is now in such shape that unless a direct effort is made at this time the subject will be permitted to drop out of sight, and future action through another administration would probably involve the entire question being gone over again, with the consequent inaction and delays which inevitably follow the introduction of even such beneficent legislative departures.

The present status of this particular legislation has been widely dealt with in these columns, and the cause of the checkmate to legislative action clearly set forth.

The point in dispute, or rather misconstrued, as between the two governments, is simply, that the United States act is made to apply to the Welland, St. Clair and St. Mary's canals, and the Canadian act is not; the Canadian government holding, and rightly, too, that such a thing as a wreck in a canal is an impossibility, and that their act as it now stands would cover wrecking in such waters as the St. Mary's river.

A wreck to mean anything, involves danger, if not a total sacrifice of life and property, and requiring the best available means of assistance and relief irrespective of nationality or locality. These conditions are non-existent in the ordinary modern methods of canal transportation, and therefore, a legislative act embodying such would perforce be inoperative; besides, the exigencies of lake commerce does not require, or has not called for any wrecking expeditions to enter canals to save life or ren-

der aid to vessels in distress, and as long as the Canadian government is willing to include the territory of St. Mary's river, we fail to see why anything further need be exacted.

It has now transpired that the United States government considers the Canadian act unsatisfactory on account of the canal clause not being embodied; but, there is little reason and less cause for a hitch on this position of the respective acts than in any other clause contained in the treaty, and it is to be hoped that immediate steps will be taken by the executive of the government to so modify the conditions as to permit the reciprocal wrecking and towing act to go into effect with the opening of navigation on the lakes in 1893. It is the American mercantile marine that the act would benefit, and not the Dominion. Our tonnage is in existence, the Canadian has yet to develop, and with the present coasting laws in force the Dominion is not likely to make any startling advancement in the field of lake shipbuilding for many years to come; hence, we but legislate to our own advantage, and unnecessary conditions should not be required of the party having all to lose and little, if anything to gain, by the enactment of the reciprocal wrecking and towing laws as now almost mutually agreed upon.

LAUNCH OF THE WHALEBACK PASSENGER STEAMER CHRISTOPHER COLUMBUS.

There was launched from the yards of the American Steel Barge Co., Superior, Wis., on Saturday afternoon, December 3, the largest whaleback afloat on fresh water, built too, in fifty-six days, after the well known type.

It is estimated that several thousand visitors and sightseers witnessed the launch of this unique vessel on a special train through from Chicago carrying no less than 600 persons.

The accompanying illustration shows the vessel completed and will give our readers a fair idea of the appearance of the first passenger whaleback put afloat. The contract for this vessel was placed by the World's Fair Transportation Co., for the purpose of carrying passengers from Chicago to the exposition buildings at Jackson Park, a distance of seven miles, and they have very appropriately named her the Christopher Columbus. She will have accommodations for about 5,000 passengers. Finished she will be as attractive and graceful in looks as any craft known to the Great Lakes. Instead of having turrets at the extremities, as in whaleback steamships previously constructed, they extend her whole length.

The technical details of the new craft are interesting. She is entirely of steel and is 362 feet over all, 42 feet beam and 24 feet deep. A triple expansion engine from the works of Samuel F. Hodge & Co. of Detroit, will supply the motive power. The three cylinders are 26, 42 and 70 inches in diameter, and will develop 2,600 horse-power. Six Scotch type boilers, 11 feet in diameter and 12 feet long, built by the Cleveland Shipbuilding Co., will supply steam at a maximum pressure of 160 pounds. She will have one screw 14 feet in diameter with a pitch of 19 feet, and is expected to attain a speed of 20 miles an hour.

She is fitted with seven turrets, elliptical in shape. The forward one, 19x13, contains the windlass; turrets 2 and 3 are 26x18 and contain stairways to the saloon deck above and between decks below. Number 4 contains the smoke stacks, air fans and ash hoists. It contains also the entrance to the fire room and is 27x18. In the next turret aft, of the same size, is enclosed the engine room and machinery. The two after turrets contain stairways similar to those forward. There are four gangways on each side by which passengers can enter and leave the ship. Upon this deck, amidships, are the dining and refreshment rooms and various booths. Forward are the kitchens and crew space.

In the hold two stringers braced with face angles extend fore and aft. Outside are two 42-inch steel fender strakes. The flat keel plate is of 29-pound plate and the shell for one-half the length amidships is of 24-pound tapered to 18-pound plate at the ends.

She has a double bottom extending fore and aft, giving a water ballast capacity of 730 tons. The compartments are built on the McIntyre principle, with nine girders three feet apart and are braced with angle irons

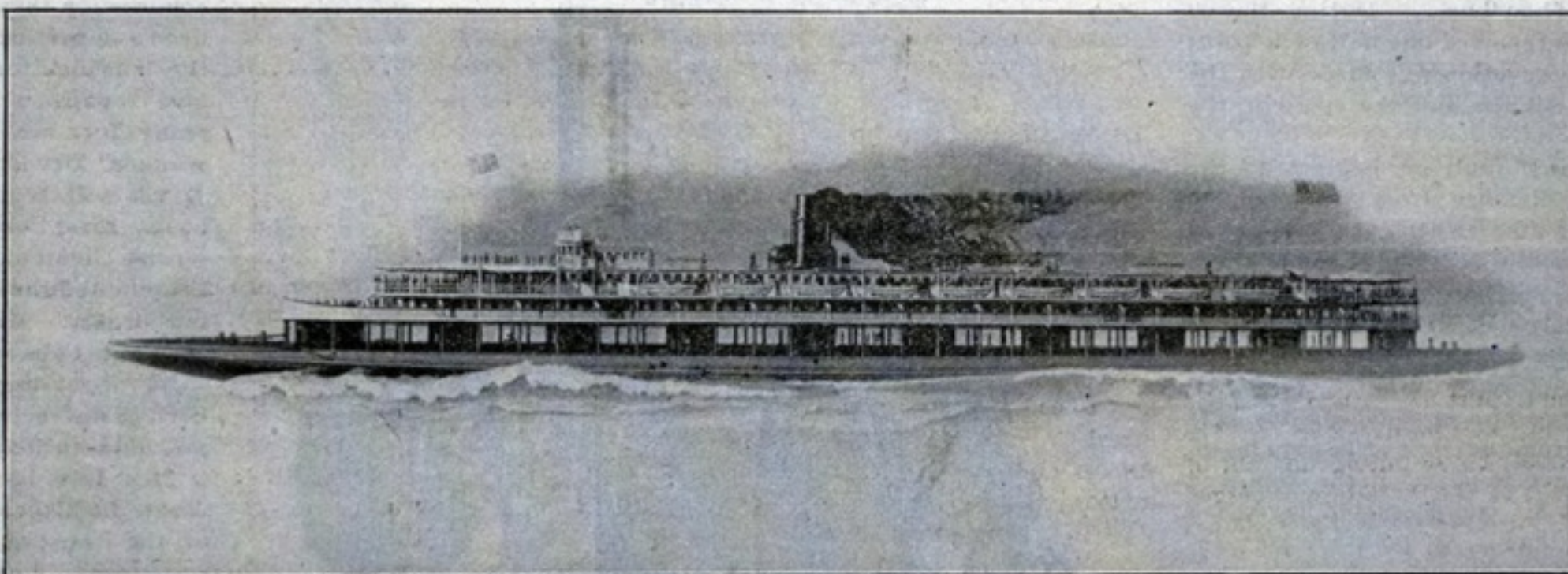
to the floor plates. There are nine water-tight bulkheads, and, in addition, from her nose in the fore peak there extends a fore-and-aft bulkhead 42 feet long.

The saloon deck, supported by the turrets, is connected with the ventilator tubes by angle iron collars. The tubes are 12 feet apart and 9 inches in diameter.

The vessel, intended only for excursion purposes, will have no state rooms, except those for her officers. The grand saloon is 225 feet long and 30 feet wide. Aft is the ladies' cabin. The remaining room is entirely open. It will be handsomely fitted and furnished. Just back of the inclosed smokestack will be placed a grand piano. The saloon will be heated with steam and lighted with electricity, as well as the vessel throughout. Outside the saloon will be a promenade deck four feet wide with thirty-two feet of clear space at both bow and stern. This deck will be supported at the sides by handsomely ventilated tubes. Over the saloon is the promenade deck proper, 257 feet long, with a skylight 15 by 138 in the center. There are also glass dome skylights over both the fore and after stairways. On this deck are the captain's cabin, the wheelhouse and the officers' quarters.

A feature of the grand saloon will be a marble and glass fountain, placed in the middle of the grand cabin. It is to be six feet in diameter at the base. The principal portion will be a glass tank filled with water in which will be shown the various fish found in the Great Lakes, including the famous speckled trout. The water will be supplied by an electric motor and drawn from one of the water ballast compartments.

The shipyards were thronged with sightseers long before the hour announced for the launching, and the whaleback steamship Thomas Wilson took a large party of Duluthians over to witness the event, which proved one of the most enjoyable and successful launches that ever took place on the lakes. Capt. Alex. McDougall has certainly seen his wildest dreams realized in the whaleback construction, and the end is not yet, for, if build-



WHALEBACK PASSENGER STEAMER "CHRISTOPHER COLUMBUS."

ing is kept up with the vigor that has characterized the movements of the American Steel Barge Co. up to date, in a few years more the lakes will be literally covered with whalebacks, both steam and tow.

DEEP WATERWAYS CONVENTION.

The deep waterways convention endorsed recently by Secretary S. A. Thompson, of the Duluth Chamber of Commerce, has been frowned down by certain parties and may not eventuate at all, at least not in the near future. Secretary Thompson when interviewed on the subject again said that he felt an interest in having the convention held, because he had been the one to propose it. He said he noticed that there were a great many railroad men interested in marine bottoms, and such men, as a rule, are in favor of a deep water channel to Buffalo, and no farther. Mr. Thompson believes that the opposition to the convention comes from short-sighted railroad men, who, as he maintains, unwisely hold that improvements in water navigation are a detriment to railroads that run along the shores of the lakes so improved.

It required weeks of hard work, with everybody in favor of it, to get a report favorable to the 20 foot channel to Buffalo; now, this plan of far greater magnitude before us, with all the great railroad interests opposing it, will require much harder work. Congress itself does not seem to be alive to the necessities of the case. There is the great Nicaragua Canal company, which I am not opposed to by any means, about to bring immense pressure to bear upon Congress to have its bonds guaranteed. When the canal is built, the wheat from the Pacific coast will be from 7,000 to 9,000 miles nearer the world's market. Think for a minute how much benefit it would be to the farmers of the north-western states to have a deep water channel to the sea! If the Nicaragua folks

are going to get governmental assistance, so ought a project designed to help the entire Northwest to have encouragement."

Mr. Thompson thinks an association should be formed, having for its sole purpose the digging of a deep water-way to the sea.

In furtherance of these views, Mr. Thompson has sent out a large number of letters to commercial organizations and others, as follows:

"Has not the time fully come when every consideration of national prosperity and national honor demands the construction, by the national government, of a ship canal through American territory from the great lakes to the Hudson river, and thus to the sea?"

"Existing facilities are entirely inadequate for the prompt economical transaction of the enormous and constantly increasing volume of traffic produced by the unparalleled development of our country. Last year there were more than 100 grain-laden vessels delayed at one time in the outer harbor of Buffalo, and in danger of freezing up for the winter in an unfavorable position."

"During the fall just past another blockade existed, not quite so serious, but one which resulted in more than doubling the rates on grain from Buffalo to New York."

"An indication of the tremendous growth of the traffic of the lakes is found in the fact that the freight passing through the Sault canal this year will be over 11,000,000 tons—2,000,000 tons more than in any previous year, and just about double the average tonnage of the Suez canal for the past ten years."

"The saving in the cost of transportation—both directly on the tonnage carried on the lakes and directly by the effect of water competition on railway freight rates—is probably not less than \$400,000,000 per year. Who dare attempt to determine the annual saving to the people of the United States if the great lakes were made practically a part of the ocean, and ocean steamers could sail from any port on the lakes to any port in the world?"

"But great as are the interests involved, and vast as are the savings in the cost of transportation which would be effected by the construction of such a canal, commercial considerations sink into insignificance in comparison with the importance of this waterway as an essential portion of the national defenses and a safeguard to the national honor."

"When the attention of the Dominion government was called to the violation of treaty obligations involved

in the discriminating tolls imposed upon American commerce using the Welland canal, they first denied, and then delayed, and finally, after congress had put into the hands of the president the power to exact retaliatory tolls on Canadian commerce at the Sault canal, promised to remove the discrimination next year. The retaliation act was put into force by the president, and for reply the Dominion government gave a bonus of \$250,000 to hasten the completion of the Canadian canal at the Sault, and the government organs openly boast that when their canal at the Sault is finished, and they are thus made independent of us at that point, the passage of American vessels through the Welland canal will be absolutely prohibited, and American commerce will be cut off from communication with the sea by the St. Lawrence route."

"Inside of five years Canada will have a waterway 14 feet deep through her own territory all the way from Lake Superior to the sea. Her vessels and her commerce can then go unhindered out from the heart of the continent over all oceans to the markets of the world, while there are more than 150 warships in the English navy which a depth of 14 feet would suffice to bring into the lakes from the sea. What is needed but the simple statement of the case to stir the American people to action? It is inconceivable that a nation which achieved political independence of Great Britain when scarce a tenth of its present size, should be content, now that it has grown to have more than 65,000,000 of people, to be commercially dependent upon a dependency of that power."

"Has not the time fully come for action?"

"Should not an organization be formed to forward this great work?"

"Is it not best that such a convention, if called, be held soon after the Christmas holidays, and held in Washington, so that the attention of Congress may be directly and forcibly called to the necessity of immediate action, and the needed legislation may be secured before the present Congress expires by limitation?"

"You are earnestly requested to give these matters the earnest consideration their importance merits, and, as the time is short, to send answers to the inquires above made at your earliest convenience."

MARITIME LAW.

SHIPPING — MASTER — NEGLIGENCE — APPROACHING DANGEROUS COAST.

District Court, S. D. New York. July 13, 1892.

When a vessel is approaching a dangerous coast at night, amid uncertain currents and in a deceptive atmosphere, it is the master's duty to make use at the first opportunity of all his available means provided for correcting by observation the errors of dead reckoning; and for losses either to ship or cargo, resulting from his neglect to do so, the master is directly responsible to the persons injured. In this case the master was held negligent (1) for not having such change of course as the chart showed was necessary upon his own estimate of his position; (2) not using the alidade in order to correct his erroneous estimate of position.

Brown, District Judge. Upon the additional testimony, I cannot find that the aspect of the case is substantially changed from that presented on the former hearing. The master is not, indeed, to be held for error or mistake in the exercise of the best judgment in the midst of uncertainties which there are no means of correcting by observation. But, when approaching a dangerous coast at night, in uncertain currents and in a deceptive atmosphere, it is the master's duty to make use at the first opportunity of all the means provided for correcting by observation the errors of dead reckoning. It is for the omission to make use of these means, and for this alone, that I am constrained to hold the master answerable.

The captain stated that he estimated his speed at about 9 knots; but in order to reach his supposed position 12 miles distant from the island from his position of the previous noon, (deducting a stop of three-fourths of an hour,) he must, in fact, have counted upon a speed of about 9½ knots, including, as he says, one-half knot for his estimate of the current, all sails being also set. Ten minutes afterwards a further change of three-fourths of a point was made to port, *i. e.* to N. W. ½ N. In ten minutes afterwards the bows of the vessel struck on a coral reef in less than four fathoms of water, at a point 1½ miles W. S. W. from shore. During the 39 minutes after the land was reported one half of a point off the the port bow, no observation was made with the alidade to determine the distance, and the speed of the ship was kept unchanged.

1. I do not ascribe any fault or neglect to the master in estimating his distance from the island to be twelve miles at the time when the land was reported one-half point on his port bow. But if there was any call to prick his position upon the chart, as he testifies he immediately did, it was certainly his duty also to observe the course which, upon his own assumption of a distance of 12 miles, would be necessary in order to carry him at a reasonably safe distance, namely, 6 miles from the coast, as he says he intended; and that would have required at the supposed distance of 12 miles that his course should have been changed to N. W. ¼ N.; that is, ¾ points to port, instead of 1¼ points. Had he made such a change at that time, he would in fact, although but half the distance from the land that he supposed, have just cleared the reefs. Had the change of 1¼ points been made when the land was reported, instead of 15 minutes afterwards, and had he been 12 miles distant, that change even at that distant, according to my plotting of the navigation, would have carried him only 2¼ miles from land, instead of 9 miles; and the subsequent additional change of ¼ of a point would not have been sufficient to carry him even three miles away from the land. Upon the master's own estimate of his position, therefore, the courses which he took were not sufficient, even had they been taken at once, to carry him half the distance from the shore that he now says he intended. This mistake could only have arisen from great inattention to the chart, or entire neglect to ascertain from it his proper course.

2. I think there was an equal neglect of duty in not making observations by the alidade to verify his actual position. The ship was provided with this instrument, and by the use of it, the bearings of the point of the island on the port or starboard bow at different times could have been quickly taken, and with all the accuracy necessary for practical purposes. It is stated in general terms for the defense, that the western end of the island did not afford a sufficiently precise object for such observations. I cannot give any weight to this excuse. The western end was sufficiently marked to enable its bearing on the port bow to be determined, namely half a point. Observations with the alidade would have shown the rapid change in its bearing at short intervals. The tables prepared for giving the distance upon any two of such observations enabled the approximate distance to be obtained very quickly. Even at the supposed distance of 12 miles, when the land was reported a half point on the port bow, it was the master's duty to port at least two points, for a glance at the chart would show that that was necessary to clear the reefs. Observations with the alidade made five minutes apart would have shown such a change in

the angle of the bearing of the head of land seen, as to indicate that its distance was only about one half what was supposed. There was time for several such observations. All would have repeated the same warning, and shown the necessity of a much greater change of course to port.

I must hold the master remiss in his duty, both for not taking a course more to port, which a proper consultation of his chart would have shown to be necessary on his own estimate of his position, and also for not correcting his erroneous estimate of position by observations with the alidade. For losses resulting from such neglect, either to ship or cargo, the master is directly responsible to the persons injured; and to the libellant by subrogation, on its payment of the insurance. Story, Ag. §§ 314, 315.

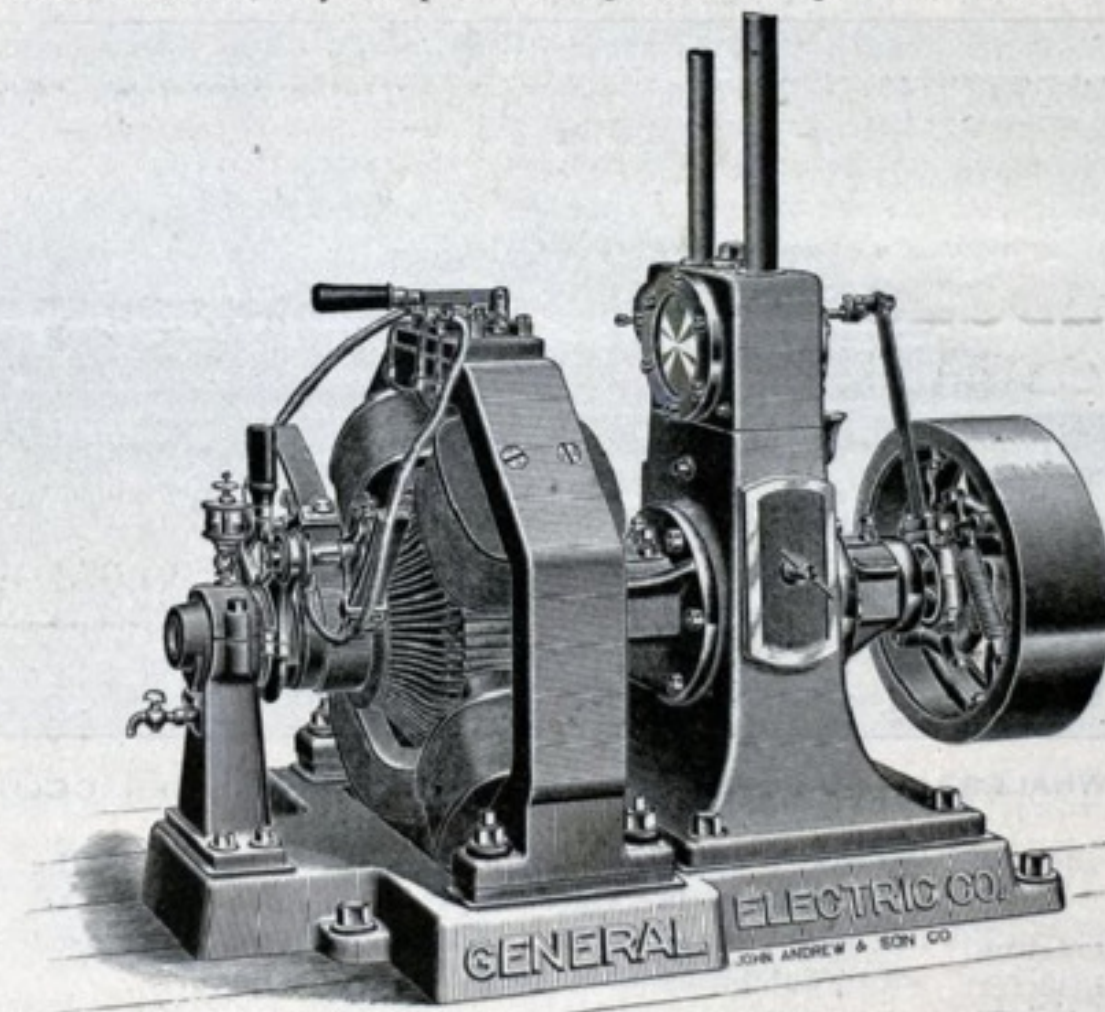
MARINE ELECTRICAL PLANT.

(Illustrated.)

In these days when all classes of tonnage of large dimensions and special tonnage represented by steam yachts, light-ships, ferry-boats and small passenger steamers are being lighted by electricity, great interest is centered in finding the most adaptable mechanism for the service.

The direct coupled generator and engine, in the compact set, is, under conditions of restricted space and position, the ideal electrical plant. We illustrate a small, direct coupled generating set, recently perfected and manufactured by the General Electric Company. As perfected it represents the result of two years of careful, practical experience.

For marine installations, where a separate engine is indispensable to drive the generator, these sets are especially adapted. As cheap as, if not even less expensive than belted plants, they can be readily fitted to positions where a belt-driving dynamo and engine could not find a sufficiency of space. Compact and simple in



arrangement their suitability for small, isolated plants in hotels and buildings where belting is objectionable, is undeniable.

Under exhaustive tests, the engine shows the highest possible economy obtainable from machines of this size; and its simplicity is such as to reduce the attention necessary to a minimum.

The generator is of the familiar General Electric Company quadripolar type, compound wound, having a regulation automatic, within two per cent. over the entire range from no load to full load.

The commutators are cross connected, so that only two brushes 90° apart are used. The rheostat is of the new, iron frame, incombustible type. The engine and dynamo are both provided with self-oiling bearings.

The sets are manufactured in 4, 8, 15, 30 and 50 kilowatt capacities.

A LARGE ORDER FOR ELECTRIC LAUNCHES.

The electric launch Electra, the successful competitor in the trial tests made at Chicago during the past summer on the lagoons at the World's Fair Grounds, was found to be best suited to fulfil all the requirements of passenger traffic on the waterways of the Fair Grounds, and as a consequence fifty will now be built at once, twenty-five by the Detroit Boat Works, and twenty-five by the Racine Hardware Manufacturing Co., after the design of the Electra. Her principal dimensions are: Length over all, 34 feet, and beam 6 feet. She carries 78 storage cells, each of 125 amper hours capacity, developing a total energy of 2,250 watt-hours. The pro-

PELLER shaft is of rolled Tobin bronze. During the trial she made a continuous run of ten miles, carrying a load of twenty-five people. The speed on the lagoons was limited to six miles an hour, and for a short distance she made from nine to eleven miles an hour. The motor and other electrical devices were designed by the Electric Launch and Navigation Co., and the hull, propeller, etc., by Gardner & Mosher. The electric launch Corcyra, recently built for Mr. J. J. Astor, will be fitted up with the same electrical apparatus and machinery as the Electra.

NOTES.

THE Roberts Boiler Co. shipped a boiler recently to the coasting steamer "Alliance" sailing out of Portland, Oregon. The freight on the boiler alone was between \$400 and \$500.

IN our issue of December 1st the steamer Frank E. Kirby was reported as leaving Detroit on Sunday morning at 9:30; went to Sandusky, loaded 162 tons of sugar, returned by way of Put-in-Bay and arrived at Detroit Monday at 9:30 a. m. The number of miles covered was 160. The Kirby reached Detroit on Sunday night at 9:30 and the above work is a twelve hour record only, instead of as we had it, viz.: 24 hours.

THE cost of a world-wide patent is disclosed by the following incident: Two French gentlemen patented a hypodermic syringe all over the world. This fact arrested the attention of a writer in *Le Figaro* who at once became curious to know the cost of the operation. It seems there are sixty-four countries where an invention can claim protection. Sixteen of these, are in Europe, eight in Africa, four in Asia, twenty-seven in America and nine in Oceania. The total value of these sixty-four official scraps of paper or documents amounted to the sum of \$17,000.

CAPT. GEORGE MORE, superintendent of construction, who was sent from Washington to inspect the Andy Johnson, has returned east. The Johnson went out of commission the 30th ult., and the engineer's department is busy laying up the engines for the winter. Extensive repairs will be put on the boat, ready for next spring, by the Milwaukee Drydock Co. Capt. A. B. Davis will remain in charge of the boat. First lieutenant James B. Butt, second lieutenant Reed and third lieutenant Johnson are placed on waiting orders. Chief Engineer James Madison Case will remain with the ship. First assistant engineer Chamberlain has been ordered to the Dexter, now stationed at Boston.

THE last issue of *The Iron Trade Review* furnishes interesting statistics of the iron ore record for the season just closed. Lake Superior shipments aggregated 8,485,210 tons, being upwards of two million tons over the record of last year and 422,143 tons more than that of 1890, the former banner year for the output record. The total shipment of iron ore through the "Soo" to December 1 was 4,376,010 gross tons, Escanaba contributing 4,000,000 tons and Gladstone 105,000 tons. In receipts Ashtabula leads the lakes as Escanaba does in shipments, the former port received 2,555,416 tons this season, a gain of 955,631 tons over last year. Cleveland adds 692,449 to the receipts of last year, though it should be stated that little or no extra wharfage or dock facilities have been added to the port.

PROPOSALS.

U. S. ENGINEER OFFICE, HICKOX Building, 185 Euclid avenue, Cleveland, Ohio, November 22nd, 1892. Sealed proposals for extending East and West Piers at Fairport Harbor, Ohio, will be received at this office until 2 p. m. of Thursday, December 22nd, 1892, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. JARED A. SMITH, Corps of Engineers, U. S. A. 1-15

PROPOSALS FOR OAK TIMBER.

—U. S. Engineer Office, No. 507 West Chestnut Street, Louisville, Ky., November 21, 1892.—Sealed proposals, in triplicate, for furnishing about 1,000,000 feet B. M. of Oak Timber for construction of dam near Mt. Carmel, Ill., will be received at this office until 3 p. m. (standard time), Tuesday, December 20, 1892, and then publicly opened. Specifications, blank forms, and all necessary information will be furnished on application at this office, or at that of O. L. Petitdidier, Assistant Engineer, Mt. Carmel, Ill. G. J. LYDECKER, Lieut. Col., Corps of Engineers, U. S. A.